

**Notice of Allowability**

Application No.

09/499,027

Examiner

Delma R. Flores Ruiz

Applicant(s)

HOSODA ET AL.

Art Unit

2828

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/2/2003.
2. ☒ The allowed claim(s) is/are 1 - 7, 10, 11, and 16-20.
3. ☒ The drawings filed on 07 February 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**


7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other  |

  
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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

## DETAILED ACTION

### *Allowable Subject Matter*

The following is an examiner's statement of reasons for allowance: claim 1 has been allowed over the prior art because they fail to teach a semiconductor laser device comprising; a first and second of semiconductor laser resonators having light emitting active layers of materials different from each other, **the semiconductor laser resonators being provided on the same semiconductor substrate so that the light emitting active layers lie substantially in parallel to a main surface of the semiconductor substrate, said first semiconductor laser resonator being located in a groove including a base and sidewalls, and said second semiconductor laser resonator not being located in said groove; and a high-resistance region in a sidewall of said groove which is provided between the semiconductor laser resonators, said high-resistance region having sufficient resistance to electrically isolate the first and second semiconductor laser resonator from one another.**

The following is an examiner's statement of reasons for allowance: claim 16 has been allowed over the prior art because they fail to teach a semiconductor laser device comprising; a first and second of semiconductor laser resonators provided on the same substrate, an active layer of the first laser resonator being of different material than an

active layer of the second laser resonator; **the active layer of the second laser resonator being provided in a groove whereas the active layer of the first laser resonator is not provided in a groove and a high-resistance region provided at least along a sidewall of said groove which the active layer of the second laser resonator is provided, the high resistance region comprising ions and/or protons implanted into the sidewall of the groove.**

The following is an examiner's statement of reasons for allowance: claim 20 has been allowed over the prior art because they fail to teach a semiconductor laser device comprising; a first and second of semiconductor laser resonators having different light emitting active layers of materials different from each other, the semiconductor laser resonators being provided on the same substrate so that the light emitting active layers lie substantially in parallel to a main surface of the semiconductor substrate, **an isolating groove defined between the first and second semiconductor laser resonators for electrically isolating the first and second semiconductor laser resonator from one another; each of said first and second semiconductor laser resonators being mounted on a heat sink having a concave portion defined in a surface thereof, and each of the semiconductor laser resonator being mounted in a junction-down manner in the heat sink so that in each semiconductor laser resonator a cap layer thereof is located between the heat sing and an active layer, thereof, and so that the active layer of each semiconductor laser resonator is**

**located between said substrate and the heat sink; and wherein at least a portion of said isolating groove extends upward from the concave portion defined in the surface of the heat sink.**

Claims 2 – 7, 10 – 11 and 17 - 19 has been found allowable due to their dependency on claims 1, 16 and 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (703) 308-6238. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

  
Delma R. Flores Ruiz  
Examiner  
Art Unit 2828

  
Paul Ip  
Supervisor Patent Examiner  
Art Unit 2828

DRFR/PI  
December 18, 2003